

This listing of claims will replace all prior versions, listings, of claims in the application:

Listing of Claims:

1. (currently amended) A process for producing plastic/wood fiber composite foamed structures comprising the steps of:

pre-drying wood fiber filler having a degradation temperature and an active volatilization temperature and maintaining the pre-drying temperature below the degradation temperature to produce dried wood fiber filler;

mixing the dried wood fiber filler with plastic to produce a plastic/wood fiber mixture and maintaining the mixing temperature below ~~an~~ the active volatilizing temperature;

feeding the plastic/wood fiber mixture into an extruder;

introducing a blowing agent into the plastic/wood fiber mixture and mixing it therewith to produce a plastic/wood fiber/gas mixture;

subjecting the plastic/wood fiber/gas mixture to high shear forces in the presence of high pressures and maintaining the processing temperature below ~~an~~ the active volatilizing temperature; and

extruding the plastic/wood fiber/gas mixture to produce a plastic/wood fiber composite foamed structure.

2. (original) A process as claimed in claim 1 wherein the pre-drying temperature is

between the active volatilization temperature and the degradation temperature.

3. (original) A process as claimed in claim 1 wherein the pre-drying temperature is below 180°C.
4. (original) A process as claimed in claim 3 wherein the mixing temperature is below 170°C.
5. (original) A process as claimed in claim 4 wherein the processing temperature is below 170°C.
6. (original) A process as claimed in claim 1 wherein the mixing temperature is below 170°C.
7. (original) A process as claimed in claim 1 wherein the processing temperature is below 170°C.
8. (original) A process as claimed in claim 1 wherein the blowing agent is volatiles devolved from the wood fiber during the mixing step and the subjecting step.
9. (original) A process as claimed in claim 1 wherein the blowing agent is a physical blowing agent.

10. (currently amended) A process as claimed in claim 9 wherein the physical blowing agent is ~~chosen~~ selected from the group consisting of ~~any of the~~ non-reactive gases ~~such as~~ CO₂, N₂, He, Ar, Air, ~~or a~~ and mixtures ~~of~~ thereof.
11. (original) A process as claimed in claim 1 wherein the blowing agent is a chemical blowing agent.
12. (original) A process as claimed in claim 5 wherein the blowing agent is volatiles devolved from the wood fiber during the mixing step and the subjecting step.
13. (original) A process as claimed in claim 5 wherein the blowing agent is a physical blowing agent.
14. (currently amended) A process as claimed in claim 13 wherein the physical blowing agent is ~~chosen~~ selected from the group consisting of ~~any of the~~ non-reactive gases ~~such as~~ CO₂, N₂, He, Ar, Air, ~~or a~~ and mixtures ~~of~~ thereof.
15. (original) A process as claimed in claim 5 wherein the blowing agent is a chemical blowing agent.
16. (original) A process as claimed in claim 1 further including the step of reducing the temperature of the plastic/wood fiber/gas mixture prior to the step of extruding

thereby stabilizing the cell structure in the plastic/wood fiber/gas mixture.

17. (original) A process as claimed in claim 16 wherein the temperature is reduced in one of a cooling extruder and a heat exchanger.

18. (original) A process as claimed in claim 5 further including the step of reducing the temperature of the plastic/wood fiber/gas mixture prior to the step of extruding thereby stabilizing the cell structure in the plastic/wood fiber/gas mixture.

19. (original) A process as claimed in claim 18 wherein the temperature is reduced in one of a cooling extruder and a heat exchanger.

20. (original) A process as claimed in claim 8 further including the step of reducing the temperature of the plastic/wood fiber/gas mixture prior to the step of extruding thereby stabilizing the cell structure in the plastic/wood fiber/gas mixture.

21. (original) A process as claimed in claim 20 wherein the temperature is reduced in one of a cooling extruder and a heat exchanger.

22. (original) A process as claimed in claim 9 further including the step of reducing the temperature of the plastic/wood fiber/gas mixture prior to the step of extruding thereby stabilizing the cell structure in the plastic/wood fiber/gas mixture.

23. (original) A process as claimed in claim 22 wherein the temperature is reduced in

one of a cooling extruder and a heat exchanger.

24. (original) A process as claimed in claim 11 further including the step of reducing the temperature of the plastic/wood fiber/gas mixture prior to the step of extruding thereby stabilizing the cell structure in the plastic/wood fiber/gas mixture.

25. (original) A process as claimed in claim 24 wherein the temperature is reduced in one of a cooling extruder and a heat exchanger.

26. (original) A process as claimed in claim 1 wherein the extruder includes cascade devolatilization having a first cascade extruder and a second cascade extruder.

27. (original) A process as claimed in claim 26 wherein the first cascade extruder is one of a twin screw extruder and a single screw extruder and the second cascade extruder is one of a twin screw extruder and a single screw extruder.

28. (original) A process as claimed in claim 5 wherein the extruder includes cascade devolatilization having a first cascade extruder and a second cascade extruder.

29. (original) A process as claimed in claim 28 wherein the first cascade extruder is one of a twin screw extruder and a single screw extruder and the second cascade extruder is one of a twin screw extruder and a single screw extruder.

30. (original) A process as claimed in claim 8 wherein the extruder includes cascade devolatization having a first cascade extruder and a second cascade extruder.

31. (original) A process as claimed in claim 30 wherein the first cascade extruder is one of a twin screw extruder and a single screw extruder and the second cascade extruder is one of a twin screw extruder and a single screw extruder.

32. (original) A process as claimed in claim 9 wherein the extruder includes cascade devolatization having a first cascade extruder and a second cascade extruder.

33. (original) A process as claimed in claim 32 wherein the first cascade extruder is one of a twin screw extruder and a single screw extruder and the second cascade extruder is one of a twin screw extruder and a single screw extruder.

34. (original) A process as claimed in claim 11 wherein the extruder includes cascade devolatization having a first cascade extruder and a second cascade extruder.

35. (original) A process as claimed in claim 34 wherein the first cascade extruder is one of a twin screw extruder and a single screw extruder and the second cascade extruder is one of a twin screw extruder and a single screw extruder.

36. (original) A process as claimed in claim 16 wherein the extruder includes

cascade devolatilization having a first cascade extruder and a second cascade extruder.

37. (original) A process as claimed in claim 37 wherein the first cascade extruder is one of a twin screw extruder and a single screw extruder and the second cascade extruder is one of a twin screw extruder and a single screw extruder.

38. (original) A process as claimed in claim 18 wherein the extruder includes cascade devolatilization having a first cascade extruder and a second cascade extruder.

39. (original) A process as claimed in claim 38 wherein the first cascade extruder is one of a twin screw extruder and a single screw extruder and the second cascade extruder is one of a twin screw extruder and a single screw extruder.

40. (original) A process as claimed in claim 20 wherein the extruder includes cascade devolatilization having a first cascade extruder and a second cascade extruder.

41. (original) A process as claimed in claim 40 wherein the first cascade extruder is one of a twin screw extruder and a single screw extruder and the second cascade extruder is one of a twin screw extruder and a single screw extruder.

42. (original) A process as claimed in claim 22 wherein the extruder includes cascade devolatilization having a first cascade extruder and a second cascade extruder.

43. (original) A process as claimed in claim 42 wherein the first cascade extruder is one of a twin screw extruder and a single screw extruder and the second cascade extruder is one of a twin screw extruder and a single screw extruder.

44. (original) A process as claimed in claim 24 wherein the extruder includes cascade devolatilization having a first cascade extruder and a second cascade extruder.

45. (original) A process as claimed in claim 44 wherein the first cascade extruder is one of a twin screw extruder and a single screw extruder and the second cascade extruder is one of a twin screw extruder and a single screw extruder.

46. (original) A process as claimed in claim 1 wherein the extruder is one of a twin screw extruder and a single screw extruder.

47. (original) A process as claimed in claim 5 wherein the extruder is one of a twin screw extruder and a single screw extruder.

48. (original) A process as claimed in claim 8 wherein the extruder is one of a twin screw extruder and a single screw extruder.

49. (original) A process as claimed in claim 9 wherein the extruder is one of a twin

screw extruder and a single screw extruder.

50. (original) A process as claimed in claim 11 wherein the extruder is one of a twin screw extruder and a single screw extruder.

51. (original) A process as claimed in claim 16 wherein the extruder is one of a twin screw extruder and a single screw extruder.

52. (original) A process as claimed in claim 18 wherein the extruder is one of a twin screw extruder and a single screw extruder.

53. (original) A process as claimed in claim 20 wherein the extruder is one of a twin screw extruder and a single screw extruder.

54. (original) A process as claimed in claim 22 wherein the extruder is one of a twin screw extruder and a single screw extruder.

55. (original) A process as claimed in claim 24 wherein the extruder is one of a twin screw extruder and a single screw extruder.

56. (original) A process as claimed in claim 26 wherein the extruder is one of a twin screw extruder and a single screw extruder.

57. (original) A process as claimed in claim 28 wherein the extruder is one of a twin screw extruder and a single screw extruder.

58. (original) A process as claimed in claim 30 wherein the extruder is one of a twin screw extruder and a single screw extruder.

59. (original) A process as claimed in claim 32 wherein the extruder is one of a twin screw extruder and a single screw extruder.

60. (original) A process as claimed in claim 34 wherein the extruder is one of a twin screw extruder and a single screw extruder.

61. (original) A process as claimed in claim 36 wherein the extruder is one of a twin screw extruder and a single screw extruder.

62. (original) A process as claimed in claim 38 wherein the extruder is one of a twin screw extruder and a single screw extruder.

63. (original) A process as claimed in claim 40 wherein the extruder is one of a twin screw extruder and a single screw extruder.

64. (original) A process as claimed in claim 42 wherein the extruder is one of a twin screw extruder and a single screw extruder.

65. (original) A process as claimed in claim 44 wherein the extruder is one of a twin screw extruder and a single screw extruder.

66. (original) A process for producing plastic/wood fiber composite foamed structures comprising the steps of:

pre-drying wood fiber filler to produce dried wood fiber filler;

mixing the dried wood fiber filler with plastic to produce a plastic/wood fiber mixture;

feeding the plastic/wood fiber mixture into an extruder;

mixing a physical blowing agent into the plastic/wood fiber mixture to produce a plastic/wood fiber/gas mixture;

subjecting the plastic/wood fiber/gas mixture to high shear forces in the presence of high pressures; and

extruding the plastic/wood fiber/gas mixture to produce a plastic/wood fiber composite foamed structure.

67. (original) A process as claimed in claim 66 further including the step of reducing the temperature of the plastic/wood fiber/gas mixture prior to the step of extruding thereby stabilizing the cell structure in the plastic/wood fiber/gas mixture.

68. (currently amended) A process as claimed in claim 67 wherein the physical blowing agent is ~~chosen~~ selected from the group consisting of CO₂ and N₂.